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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

ED

Office Action Summary

Application No.

10/524,733

Applicant(s)

JANSEN, HERBERT ANDRE

Examiner

Ellsworth Weatherby

Art Unit

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 14 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim *cannot depend from any other multiple dependent claim*. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.
2. Claim 2 is objected to because of the following informalities: Applicant refers to "the three passive detectable devices", however applicant claims "at least three passive detectable devices." Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant refers to two independent claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 are rejected under 35 U.S.C. 102(b) as being anticipated by Foley et al. (USPN 6,021,343).

Regarding claim 1, Foley et al. '343 teaches an interactive tracking system for tracking a position and orientation of a tool and for interaction with an operator of the tool in computer-assisted surgery, the interactive tracking system comprising: a detectable device trackable for position and orientation and adapted to be mounted to a tool (fig. 3, ref. 40, 45; fig. 5. ref. 40,45); an interaction device adapted to be mounted to the tool and actuatable to send an interaction signal relating to a function of the tool (col. 4, ll. 32-67; col. 5, ll. 1-8); a tracking system for tracking the detectable device for position and orientation; and a computer-assisted surgery system connected to the tracking system for calculating a position and orientation of the tool as a function of the tracking of the detectable device and for initiating an interaction as a function of the position and orientation of the tool when receiving the interaction signal (col. 3, ll. 12-42).

7. Claims 2-5 and 7-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Leis (USPN 6,061,644).

Regarding claims 2-5, Leis '644 teaches a passive optical interface apparatus for tracking by a tracking system of an object in space for position and orientation and for interacting with the tracking system (col. 2, ll. 39-55), the passive optical interface apparatus comprising: at least three passive detectable devices trackable for position by the tracking system and a mounting device for receiving the at least three passive detectable (fig. 2, ref. 12a-f) devices in a known geometry and adapted for being secured to the object such that a position and orientation of the object is calculable by the tracking system as a function of a tracking of the known geometry of the passive detectable devices (fig. 2; col. 5, ll. 24-67; col. 6, ll. 1-3), at least a first of the passive detectable devices being displaceable with respect to the object, a displacement of said first of the passive detectable devices with respect to the object being detectable to initiate an interaction with the tracking system while maintaining the tracking of the object (col. 5, ll. 24-67; col. 6, ll. 1-3). Leis '644 further teaches that the apparatus comprises four of the passive detectable devices trackable for position by the tracking system (fig. 2, ref. 12a-f), a second, a third and a fourth of the four passive detectable devices being positioned in said known geometry and the first of the four passive detectable devices being displaceable with respect to the known geometry (col. 2, ll. 61-67), a displacement of any of the four passive detectable devices with respect to the known geometry being detectable to initiate an interaction with the tracking system and measured as changes in the segment lengths between the markers (col. 2, ll. 61-67;

Art Unit: 3768

col. 5, ll. 24-67; col. 6, ll. 1-3). Leis '644 further teaches that each of the markers is measurable with 6 degrees of freedom such that with any displacement the device's position and pose can be measured (col. 9, ll. 15-67; col. 10, ll. 1-25).

Claims 7-13 do not contain any feature which, in combination with the features of any claim they refer meet the requirements of novelty and/or inventive step over claims 2-5. Therefore, the same reasoning from claims 2-5 applies mutatis mutandis to the subject matter of the corresponding claims 7-13.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Foley et al. '343 in view of Leis '644.

Foley et al. '343 teaches all the limitations of the claimed invention except for expressly teaching that wherein: the detectable device is the known geometry according to any of the claims 2-5; the interaction device is the first of the passive detectable devices according to any of the claims 2-5; and the computer-assisted surgery system has an interaction signal interpreter for detecting a displacement of the first of the passive detectable devices with respect to the tool to initiate an interaction with the handler.

In the same field of endeavor, Leis '644 teaches a passive optical interface apparatus for tracking by a tracking system of an object in space for position and orientation and for interacting with the tracking system (col. 2, ll. 39-55), the passive optical interface apparatus comprising: at least three passive detectable devices trackable for position by the tracking system and a mounting device for receiving the at least three passive detectable (fig. 2, ref. 12a-f) devices in a known geometry and adapted for being secured to the object such that a position and orientation of the object is calculable by the tracking system as a function of a tracking of the known geometry of the passive detectable devices (fig. 2; col. 5, ll. 24-67; col. 6, ll. 1-3), at least a first of the passive detectable devices being displaceable with respect to the object, a displacement of said first of the passive detectable devices with respect to the object being detectable to initiate an interaction with the tracking system while maintaining the tracking of the object (col. 5, ll. 24-67; col. 6, ll. 1-3). Leis '644 further teaches that the apparatus comprises four of the passive detectable devices trackable for position by the tracking system (fig. 2, ref. 12a-f), a second, a third and a fourth of the four passive detectable devices being positioned in said known geometry and the first of the four passive detectable devices being displaceable with respect to the known geometry (col. 2, ll. 61-67), a displacement of any of the four passive detectable devices with respect to the known geometry being detectable to initiate an interaction with the tracking system and measured as changes in the segment lengths between the markers (col. 2, ll. 61-67; col. 5, ll. 24-67; col. 6, ll. 1-3). Leis '644 further teaches that each of the

Art Unit: 3768

markers is measurable with 6 degrees of freedom such that with any displacement the device's position and pose can be measured (col. 9, ll. 15-67; col. 10, ll. 1-25).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Foley et al. '343 in view Leis '644. The motivation to modify Foley et al. '343 in view of Leis '644 would have been to use the interchangeable tools as taught by Foley et al. '343 with the unique tracking signatures as taught by Leis '644 to identify the type of tool as well as the position.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellsworth Weatherby whose telephone number is (571) 272-2248. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eleni Mantis-Mercader can be reached on (571) 272-4740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3768

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EW


ELENI MANTIS MERGADER
SUPERVISORY PATENT EXAMINER